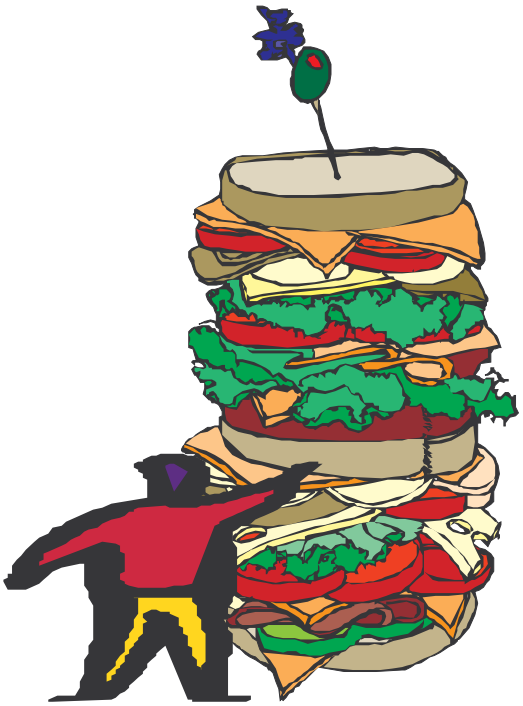
WATCH YOUR WAISTLINE

Your Health May Depend on It!

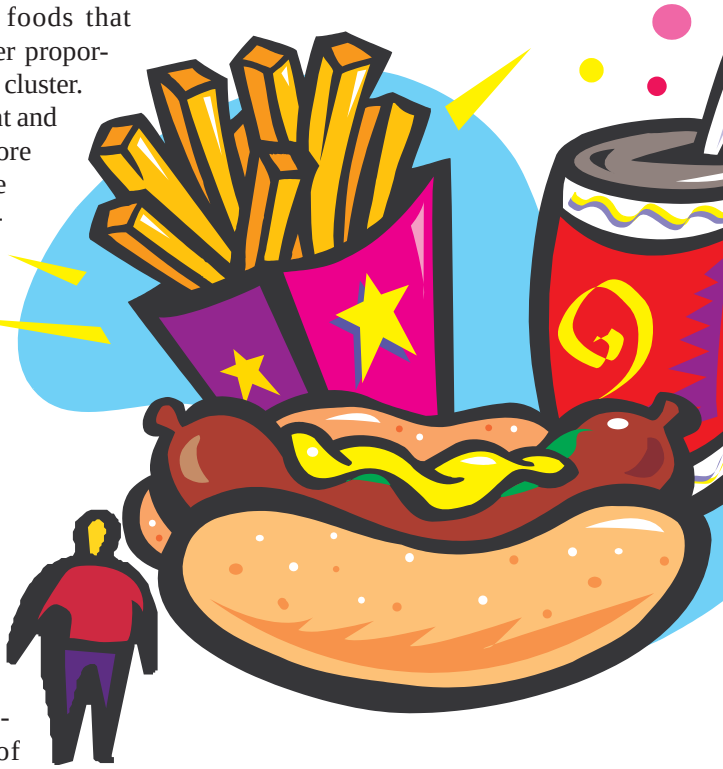
Scientists funded by the Agricultural Research Service recently studied volunteers' everyday eating habits to better understand dietary causes of obesity. Obesity has increased by more than 20 percent in the past decade in the United States. About 60 percent of U.S. adults are now overweight or obese.

The analysis was conducted by postdoctoral associate P. Kirstin Newby and was overseen by Katherine Tucker, director of the Dietary Assessment Research Program at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, in Boston, Massachusetts. The findings were published in the *American Journal of Clinical Nutrition*.

The scientists looked at the food-consumption habits of 459 healthy men and women participating in the ongoing Baltimore Longitudinal Study on Aging. Diet types were assessed using a 7-day dietary record, from which five dietary patterns, or "clusters," were derived. These dietary clusters were labeled "healthy," "white bread," "alcohol," "sweets," and "meat and potatoes." The pattern names reflect the foods that contributed relatively greater proportions of caloric intake in each cluster.



Overall, those in the "meat and potatoes" cluster gained more weight than those in the "healthy" pattern. Individuals in the "alcohol" pattern consumed about 15 percent of their daily calories as alcohol, compared to only about 2 to 3 percent for people in the other patterns. And those in the "sweets" pattern consumed about 11 percent of calories from high-fat baked goods, such as cakes, muffins, and cookies, which is about twice the amount consumed in the other patterns. Those in the "sweets" pattern also consumed about 10 percent of their calories from high-fat dairy foods.



Waistline Can Signal a Syndrome

Today, body mass index (BMI) is used to determine obesity, rather than the height and weight charts used in the past. A BMI of 25 to 29.9 suggests overweight, while a BMI of 30 and above reflects obesity.

While BMI is a common measure used to indicate body fat, waist circumference is a common measure used to indicate abdominal fat. Excess fat in the abdomen, independent of total body fat, is considered a risk factor for ailments associated with obesity, such as diabetes. (See the box on facing page for tips on calculating and interpreting these important measures.)

The mean annual change in waist circumference found in the study was about three times greater for volunteers in the "white bread" cluster than for those in the "healthy" cluster. The "white bread" group ate about 16 percent of their daily calories as white bread or refined grains, which is almost five times greater than that consumed in the "healthy" group. While those in the "healthy" cluster gained an average 1/6-inch in waist circumference per year, those in the "white bread," "alcohol," and "meat and potatoes" clusters gained close to a half-inch per year.

Abdominal weight gain and corresponding increase in waist circumference contribute more than overall weight does to development of "metabolic syndrome." This condition is noted by a combination of abdominal obesity, high triglycerides, high blood pressure, and poor blood sugar control—all of which increase risk for diabetes and heart disease.

"The interesting point here is that those in the 'meat and potatoes' group gained in both waist circumference and BMI, while those in the 'white bread' group—and to a lesser extent, the 'alcohol' group—disproportionately gained waist circumference relative to BMI," says Tucker. "Because gains in waist circumference are particularly related to greater health risks, it's important to monitor changes in waist circumference as well as total weight gain, and to try to minimize abdominal weight gain."

Abdominal obesity is considered a risk factor when waist circumference exceeds 40 inches for men or 35 inches for women.

Newby believes that dietary pattern research is important because foods are not consumed in isolation, and studies such as this one can lead to important insights about ways to help individuals who wish to control their weight.

The study's authors concluded that eating a diet high in fruits, vegetables, reduced-fat dairy products, and whole grains—and low in red and processed meat, refined grains, fast food, and soda—is associated with smaller gains in both BMI and waist circumference.—By **Rosalie Marion Bliss,** ARS.

This research is part of Human Nutrition, an ARS National Program (#107) described on the World Wide Web at www.nps.ars.usda.gov.

P. Kirstin Newby is with the Epidemiology and Dietary Assessment Research Program, Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, 711 Washington St., Boston, MA 02111-1524; phone (617) 556-3357, fax (617) 556-3344, e-mail pknewby@post.harvard.edu. ★

What'sYour BMI?

To figure out your Body Mass Index, use a calculator or a pencil and paper—or both! Just follow these steps:

1) Take your weight in pounds, and multiply that by 700.
2) Take your height, convert it to inches, and multiply that number by itself.
3) Divide #1 by #2.

OR

Do it the easy way, by using one of several online, federal BMI calculators, such as one at the Centers for Disease Control and Prevention's website: www.cdc.gov/nccdphp/dnpa/obesity/defining.htm#BMI.

Or, one at the National Institutes of Health's website: www.nhlbisupport.com/bmi/bmicalc.htm.

For instructions on accurately measuring waist circumference, go to the Centers for Disease Control and Prevention's website: www.cdc.gov/nccdphp/dnpa/obesity/defining.htm#Circumference.